

Run II Resource Project, Status Report, Jan 22-25, 2008.

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I started working on the Run II Resource Project as my main project on Jan 22, 2008.

For completeness I will mention project related work done at low duty cycle over the period Jan 3-18, 2008:

- Discussions with various lab personnel and some D0 personnel about what projects I might pursue next.
- Discussions with Vicky, Patty, Amber, Mark and Rick to develop a draft charge for this project.
- Reading archived documents about previous computing models.

Summary:

1. I have stopped receiving feedback on the charge so I guess it's final. See below.
2. Acquired D0 model from Amber (Jan 16). This week I started to understand how it works (including learning Excel). I have the big picture and am working on details.
3. Acquired CDF model from Rick (Jan 22). Verified that it was readable and had a cursory look around to see what is there.
4. Attended meetings with REX people and some of their downstream support people. Details below. The goal is to learn enough background information and jargon that I can work constructively with the Run II team.
5. Consolidate the core dump of information.
6. Vicky was looking for a short term slot for GP. I suggested that he could play a data gathering role in support of this project. He will do this and Amber has supplied a start-up work list.

Looking ahead:

- The week of Jan 28 to Feb 1 will be a short week due to ILC work at SLAC.
 - I will be back at the lab on Thursday.
 - My goal is to fully understand the D0 model by the end of the week.
- My goal for the next week (Feb 4-8) is to understand the CDF model by about mid week.
 - During this week I will look for interim results from GP. I will let him know that I can use D0 as soon as he has them.
- I have not yet figured out priorities for the next 3 main items:
- Do we need a write up to compare and contrast the models, particularly the less obvious assumptions?
 - I think yes.
 - This document can also address the wisdom, or lack thereof, of trying to "merge" the computing models. Where we leave the word "merge" fuzzily defined.

- Do we want a document to compare and contrast GP's findings with the assumptions from previous years?
 - I think yes.
- Figure out what we can learn about:
 - How physics analyses really use resources?
 - Use of caches - are they over provisioned?
 - Amber's observation of 800E9 events delivered by SAM to D0.
 - Other things ...
 - Some of these may involve expanding GP's project if he is still available. If not, it will be on my plate.

Meetings attended:

- Tues Jan 22
 - 9:30 AM Sam Operations Meeting
 - Observed meeting, introduced myself to attendees.
 - Followup discussions with Adam, Margaret and Jerry.
 - 11:30 AM Short phone meeting with Rick
 - Discuss draft charge and plans for the week.
- Wed Jan 23
 - 10:00 - 12:00 Meet with Adam, Margaret and Jerry.
 - What Adam's group does.
 - Overall work flow of CDF and D0 reconstruction
 - for broadest meaning of reconstruction, ie all but MC and analysis.
 - What are CAF, CAB, SAM, SAMGRID, dcache, ...
 - How do these interact with each other and with main flow of the experiment's code
 - This went very, very well. Adam did a great job of judging the level of detail that I think I need.
 - 15:30 - 16:30 - Vicky, Rick, Jerry
 - Discuss what (Jerry+Margaret) and I are doing for Rick's group and what I am doing for Vicky.
 - Vicky thinks that I am headed in the right direction.
 - This is where GP came on board.
 - It's clear to me that I only need to a superficial understanding of the areas on which Margaret and Jerry are likely to focus.
 - 16:30-17:30
 - Vicky invited us to stay while she spoke with Rob Kennedy and Bill Boroski about Rob's projects
 - Immediate project has been to make SAMGRID and D0 SW work better together.
 - Discussions about migrating support from developers to operators.
 - Discussions about what it
- Fri Jan 25 - Meetings planned today.
 - 9:00 - Stephan Lammel, Margaret and Jerry
 - Agenda: to discuss what his group does. In particular what do the 5 CAF consultants do?
 - 10:00 - Adam Lyon, Margaret and Jerry

- Agenda: continue the discussion started on Wednesday morning.

Charge: The parts in red have minor changes since the previous iteration.

Develop and document a computing model for Run II that can be used to inform the division about computing requirements for Run II, both hardware and personnel, starting in FY08 and continuing until the end of the main analysis period, the end of FY 2012. This includes but is not limited to:

- Learn and document the existing CDF and D0 Run II computing models.
- Work with the CD Running Experiments Department and with the collaborations to understand how the experiments are actually using existing resources in their different operating modes, reconstruction, skimming, MC, analysis, etc
 - Some of the information is already available and just needs to be collected.
 - Identify what metrics are missing and work with REX to collect them.
 - Identify any resources that are being used inefficiently.
- If practical, develop a single tool to express the computing models of both experiments.
- Pay particular attention to several aspects that, in the past, received only cursory treatment:
 - Are the disk caches used in an optimal way?
 - What are the true drivers for doing physics analysis/
- Ideally this model will be predictive, not just descriptive. On the time scale foreseen, however, this may be limited by the available metrics.

Deliverables:

- A short weekly report and a biweekly presentation.
 - Received by REX and offline mgt of CDF and D0.
- A draft final report due by March 21, 2008 ??
 - Received by REX and offline mgt of CDF and D0.
- A final report by ???
 - Received by CD, CDF and D0.

At the end of this time we can discuss if further work on improved metrics and increased sophistication merits additional effort.

Added Notes:

- The charge does NOT say that I should make any recommendations. I should provide data that allows others to make decisions.
- Vicky's preference is that the both models be expressed as an xl spreadsheet that she can use.